IOWA URBAN AND COMMUNITY FORESTRY COUNCIL

Community Trees

Fall 2003 *Volume 14, Issue 2*

The best time to plant a tree was twenty years ago. The second best time is now.

Iowa's Current Forest Health Issues

By Steve Pennington, Iowa DNR Forest Health Coordinator

Many factors impact the health of Iowa's forests, including weather patterns, insects, and diseases (fungi). In addition, pests in other parts of the country, especially the Midwest, can pose a threat through migration and/or being transported to the state by humans. For instance, the Emerald Ash Borer is a beetle from Asia that is currently causing problems in ash trees in Michigan and Ohio, and was found this spring in a nursery in Maryland. Hopefully efforts to limit this insect's spread will keep this potential threat from becoming a problem in Iowa.

Female Gypsy Moth, courtesy of the US Forest Service.

Forest health monitoring in Iowa during the 2003 growing season is summarized by two overall observations. 1) The normal range of insect and disease species that commonly attack and stress our forests (but do not kill our forests) seemed to lessen this year. Web insects, chewing caterpillars, and similar pests had outbreaks in certain areas but were not as widespread as has been seen in other years. 2) However, there are two forest stressors that became more noticeable in 2003: gypsy moth and white oak decline.

Over 5000 gypsy moth traps are placed each year by several government agencies (Iowa Department of Agriculture and Land Stewardship (IDALS), USDA Animal and Plant Health Inspection Service (APHIS), and Iowa Department of Natural Resources (DNR)). A season's-end tally in mid-September showed 142 moths had been caught in 2003, which is up from previous years. One nursery in Western Iowa sprayed for gypsy moth larvae and another site in East central Iowa probably will need to be treated next spring. Recognizing that the gypsy moth may be getting closer to Iowa, the Iowa Forest Insect and Disease Management Council began revising Iowa's gypsy moth position paper in 2003, suggesting action steps for suppression and "slow-the-spread" tactics to bolster and continue efforts at delaying moth establishment in Iowa in any significant numbers. The revised paper will be complete by February, 2004, and will be shared with landowners, elected leaders and agencies.

continued on page 2

Inside

Page 2...The Colors of Fall

Page 3.....Communities Work to Plant Trees

Page 3.....Fall 2003 Operation ReLeaf a Success

Page 4.....*New Trees and the Summer in Iowa*

Page 6.....Community Profile: Mason City

Page 7.....In a Nutshell

Page 7.....Calendar of Events

The Colors of Fall

By Chris Feeley, ISU Forestry Extension

Chlorophyll, the compound most responsible for the manufacture of foods (sugars) by plants, gives them their green color. Chlorophyll breaks down under bright sunlight and is constantly being replaced. As long as plants are actively growing, enough chlorophyll is produced to keep them green.

Other pigments, *carotenoids*, are also present in green plants. They serve as energy absorbers and help chlorophyll do its job. They appear mostly yellow and orange in color but they are not usually seen as long as chlorophyll is being manufactured in the leaves.

The red and purple colors are produced by *anthocyanins*. This color pigment is not present in the leaves throughout the year. The production of anthocyanins occurs in later summer and is dependant on the amount of sugars produced in the leaves and the weather conditions.

When the days become shorter and cooler, the production of chlorophyll slows down and eventually stops. As the green color disappears the other color pigments begin to show. Cool nights and warm days encourage the best color development.

Did the drought hurt the fall color? Not really. In fact, it may have prolonged the color season. Bottomland species like cottonwood, birch, silver maple, and basswood were the first to start going dormant and showing their brilliant yellow colors. The honeylocust, sumac, and ash were next to change color. Lastly, the oaks and hard maples made the transition. Our moist spring allowed most of the trees to have ample sugar production, giving us the brilliant red display. The dry fall caused the bottomland species to turn early and go dormant, giving us a longer run of fall colors instead of a peak fall color period.

Forest Health, continued from page 1

White oak decline is a progression of stressors that leads to the death of trees of that species and is being noticed more and more in Northeast Iowa. It is being seen as scattered, mature trees "standing dead" in woodlands. The disease begins with an environmental event that weakens the tree (i.e. cold event, atmospheric event, biological event, etc.) to the point that borers and fungi not normally capable of killing the tree can enter the tree and cause mortality. In 2003, entomologists and pathologists from Iowa and from the U.S. Forest Service in St. Paul, MN began visiting these white oak decline sites and collecting more detailed data. Also, the DNR's Bureau of Forestry has submitted a grant request to the U.S. Forest Service for support in investigating white oak decline and developing recommendations to landowners on how to counter and/or manage this forest disease.

The health of Iowa's forests is of course very important to the work done by community tree groups, private landowners, natural resource professionals, and all persons interested in the state's forest resources. For more information, please visit www.iowadnr.com/forestry/health or www.forestry.iastate.edu/ext/ext.

Communities Work to Plant Trees

Twenty-three community organizations across the state were selected to receive funds for tree-planting projects this spring in conjunction with a grant provided by the Iowa Department of Natural Resources' Keepers of the Land Program. The $20,000 from the matching grant combined with the funding from recipient communities (about $50,000) made possible the planting of over 600 trees. Each community received between $500 and $1,000 from the grant to plant trees on publicly-owned property. Volunteers made many of the projects possible, and provided leadership through their community's "tree group" for all aspects of the project. Projects took place in Adel, Allison, Bettendorf, Bondurant, Cedar Falls, Cedar Rapids, Coralville, Denver, Des Moines, Elk Run Heights, Granger, Johnston, Lawton-Bronson, Maquoketa, Marion, Marshalltown, Murray, Newton, Shenandoah, Spencer, Waterloo, and Windsor Heights.

The Polk County Conservation Board used trees as a screen between Jester Park and the adjoining golf course.

Information on the upcoming Keepers of the Land tree-planting grant can be found on page 7. The Keepers of the Land program promotes volunteerism in protecting and enhancing our natural resources (see www.iowadnr.com/volunteer/index). For more information on volunteering, please see the website listed above or contact Matt Brewer (515-242-6892, Matt.Brewer@dnr.state.ia.us) for forestry or volunteer@dnr.state.ia.us for all other opportunities.

Fall 2003 Operation ReLeaf a Success

Alliant Energy offered its Operation ReLeaf residential tree planting program again this fall. Projects took place in nine communities throughout the state of Iowa with the goal of improving energy conservation and community reforestation. The program is a partnership initiative funded by Alliant Energy and administered by the Iowa Department of Natural Resources. Selected County Conservation Boards and Resource Conservation & Development Areas across the state hosted the Saturday morning events. They took place in Appanoose, Dallas, Howard, Jackson, Lee, Linn, Marshall, Washington, and Winnebago counties throughout the months of September and October.

Approximately 3,300 high quality, three- to eight-foot landscaping trees were offered for $25 each. The trees normally retail for $65 or more, and are sold through the program on a first come, first-served basis. The species that were offered varied from project to project and included shade, evergreen, and ornamental trees. The program requires that participants be Alliant Energy customers, and that purchases be made in advance

continued on page 7

New Trees and the Summer in Iowa

By Paul Wray, ISU Forestry Extension

Each year, homeowners and tree planters often go into the spring with high hopes and great expectations for the trees that they planted the fall before or the trees they are planting in the spring. We expect our new plantings to survive, grow fast and look beautiful. For the majority of the trees, the growing season during April, May and June is very good; temperatures are reasonably cool and moisture is more than adequate for the new tree or shrub to grow new leaves, expand its branches and send roots into uncharted territory.

For some plantings, problems may begin earlier than later. The first stress calls often occur during that first month of growth and are often the easiest to diagnose. Common symptoms include failure to leaf out, death in part of the tree, small and stunted leaves, and leafing out quickly followed by the leaves drying up and falling off. For most of these early problems, the reason relates to the planting stock, or in some cases the deficiencies of the planting stock. These early season tree failures can usually be reduced or eliminated by using quality stock. Buy from a reputable dealer that has good stock. Good stock can be defined as plants with good root systems compared to the top of the tree. Small trees with large root systems do well and suffer less transplant shock because fewer roots have been lost in the digging and planting processes. Trees with marginal root systems and trees with pots that are small compared to the top of the tree may not survive the first month. During the first part of the growing season, new tree failure is almost always due to poor planting stock or planting trees with insufficient roots to support the top.

As the summer progresses, getting warmer and usually drier, new tree problems become more evident and obvious to the homeowner. The weakest of the trees continue to die because the roots cannot supply the increased demand for water. Even with wet soils, the root system lacks enough surface area and feeder roots to provide the moisture to the tree or shrub. Many new plantings exhibit classic scorch symptoms—outer portion of the leaves wilt, and the margins turn brown. At this stage the tree is compensating for insufficient root systems; assuming that the tree remains viable, it will do better next season because of its expanded root matrix. Leaf loss, additional leaf scorch, slow growth, and poor vigor are most common in the first one to two years of transplanting. In almost all cases, diseases are not an issue during the first 2-5 years after planting. Almost all tree problems can be related to transplant shock and trees with insufficient roots to supply their water needs.

Typical leaf scorch symptoms.

Here are some guidelines to reduce the summer stress on our new plantings:

Buy the best nursery stock available. Select stock that looks good above the ground, but also consider the roots and how well the balance exists between top and roots. A plant can never have too many roots.

For spring plantings, plant early. The longer in the season that the plant has to grow with cool, moist conditions, the more roots will become established to get it through our hot summer. Avoid summer planting because of the increased moisture stress during the hot, dry months.

For fall plantings, plant conifers early and deciduous trees later. Conifers planted early will continue to grow and expand roots into the late fall. Most deciduous trees do less root growth after August 15. Planting deciduous trees that are more dormant will result in less damage to the tree. Container grown trees can be planted anytime during the fall season.

Mulch, mulch, mulch. Mulching should be considered a requirement of tree and shrub planting. Mulch with 3-5 inches of organic mulch well beyond the root area of the new planting, ensuring that there is no mulch next to the stem of the plant.

Don't fertilize the first year. Fertilizer often stimulates top growth, putting additional pressure on the root system. Most soils in Iowa have more than sufficient nutrients for new tree and root development.

Water properly. Allow time between watering for the root area to dry, which promotes additional root development. When you water, water with sufficient water to soak the entire root system and beyond. Remember, you can over water with respect to frequency, but you cannot use too much water during an application. For first year conifers, continue watering until the soil is frozen.

Minimize pruning. Correct problems such as multiple leaders and rubbing branches, but leave the rest. The leaves are the source of carbohydrates for new root growth and expansion.

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Community Profile

By Matt Edwards
former DNR Volunteer Specialist

Mason City

There's an old adage that states, "It's not what you know, it's who you know that counts." River City Trees in Mason City has taken that to heart. While they do know their stuff when it comes to urban forestry, they have been tremendously successful in garnering resounding community backing for their activities. A wide network of supporters and partners includes city government, local nurseries, landscape architects, the school board and the general citizenry. Their ability to work effectively with each of these groups has made River City Trees one of the oldest and most active community forestry groups in Iowa.

As with many other highly effective urban forestry programs, River City Trees has been very successful at grant writing and fundraising to pay for their planting and educational programs. Their success in the financial arena has led to countless projects in Mason City, including building a community arboretum. The group regularly involves local school children, beginning with the "Kinder-Tree" program and continuing through high school. Even more impressive is the fact that they have successfully integrated urban forestry into the curriculum and service learning programs at the schools.

According to the board, the single most important factor in their success has been the ability to build and maintain relationships. Each of their projects is a collaborative endeavor that utilizes the skills, knowledge and contributions of many partners. For example, by building long-term relationships with a few local nurseries they are able to garner some product discounts. But more importantly, they receive additional support in the form of donated labor or technical advice on many projects. Although the prices they receive through this process are not necessarily as cheap as they might be if they were put out to bid, the value-added service makes this type of reciprocal relationship profitable for both partners.

River City Trees volunteers planted 38 trees at the municipal airport in the spring of 2002.

At the municipal level, River City Trees has continued to cultivate good relations. They work closely with the city to identify areas for planting as well as problem areas that need work. Through their efforts with the city, they have been successful in documenting the need for a professional arborist. As a result, the city has allocated funds for a half-time arborist position. Though not full-time, the arborist position places Mason City in the company of less than a half dozen towns in the state that have a professional arborist.

Through the years, the executive board of River City Trees has worked diligently to cultivate a diverse network of contributors to and supporters of their program. By working closely with these local stakeholders, River City Trees has built and maintained an organization that has been successful in its mission to create a healthy urban forest for Mason City.

In a Nutshell

Tree-planting Grant Opportunity

The Iowa Department of Natural Resources' Keepers of the Land Program will again be providing $20,000 to sponsor a matching grant for tree-planting projects in Iowa communities. The 2004 Keepers of the Land Tree Grant Program will award between $500 and $1000 in matching funds to community organizations and governments for use in purchasing and planting trees on publicly-owned property. The ranking criteria for selecting grant recipients will emphasize volunteer involvement as well as projects taking place in parks, schools, and other high-use areas. All of the projects will be completed by June 30, 2004. Applications can be downloaded from www.iowadnr.com/forestry/ and must be ***postmarked by Friday, November 21, 2003.*** *Grant applicants will be notified of the results of the selection process in January, 2004. For more information or to request a paper copy of the application, please contact Matt Brewer, Forestry Volunteer Coordinator (515-242-6892, Matt.Brewer@dnr.state.ia.us) or Randy Cook, Urban Forester (515-281-5600, Randy.Cook@dnr.state.ia.us). The Iowa Department of Natural Resources' Keepers of the Land Program promotes volunteerism in protecting and enhancing our natural resources (see www.iowadnr.com/volunteer/index).*

Calendar of Events

November 6
Trees Forever Annual Celebration
Ames
info@treesforever.org

November 8
Woodland Stewardship Conference
Nebraska City, NE
phw@iastate.edu

November 8
Keepers of the Land Volunteer Banquet
Des Moines
volunteer@dnr.state.ia.us

November 18
Council Meeting
Ames
randy.cook@dnr.state.ia.us

November 24-25
Iowa Water Summit
Ames

Operation ReLeaf, continued from page 3

and limited to two trees per household. In the event there are additional trees available on the day of distribution, they will be sold at that time. Applications for an expected spring 2004 program can be downloaded from the web early next year at www.alliantenergy.com or www.iowadnr.com/forestry/ or can be obtained by calling 800-ALLIANT or the Iowa DNR at 515-281-6749.

Story County's Spring 2002 project.

In addition to Operation ReLeaf, other programs are also sponsored by the utility companies that serve Iowa. MidAmerican Energy offers an opportunity for tree improvement in communities. *Trees Please!* provides tree-planting grants to Iowa communities that are served by the company. More information can be obtained by calling 800-434-4017. Also, Alliant Energy and Aquila partner with Trees Forever to provide tree-planting grants to Iowa communities. For more information, contact Trees Forever at 800-369-1269 or 319-373-0650 in Marion.

I never before knew the full value of trees. My house is entirely embossomed in high plane-trees, with good grass below; and under them I breakfast, dine, write, read, and receive my company. What would I not give that the trees planted nearest round the house at Monticello were full grown.

Thomas Jefferson

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